

NORTHERN LAND USE GUIDELINES

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Overview



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

Canada

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Overview



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Preface

The Department of Indian Affairs and Northern Development (DIAND) has revised its popular land use guidelines series. These publications are designed to guide land use activity on Crown land in the Northwest Territories, Nunavut and Yukon. Activities on land under private ownership (e.g., First Nations land)¹ and land under municipal or territorial control (e.g., Commissioner's land) require direction from the appropriate agency.

Guidelines apply to land use activities on Crown land only

In the past, incorporating environmental protection into northern development has been considered costly. This series suggests, however, that proper environmental planning can save time and money in the long run. These guidelines will assist proponents and operators in planning proposed land use activities, assessing related environmental effects and minimizing the impacts of these activities.

This series of guidelines should be supplemented by local research, traditional knowledge, engineering or other professional expertise specific to a proposal and advice from the appropriate regulatory agency. Although every attempt has been made during the preparation of these guidelines to use up-to-date information, it remains the operator's responsibility to obtain the most recent information related to northern resource development and to follow current regulatory requirements.

Guidelines are subordinate to all acts, ordinances, regulations and permit terms and conditions

Volumes in this series include:



Overview



Administrative Framework



Administrative Process



Applying Sustainable Development



Permafrost



Access: Roads and Trails



Camp and Support Facilities



Pits and Quarries



Mineral Exploration



Hydrocarbon Exploration



Other Land Uses



Abandonment and Reclamation

The series is available electronically at the DIAND Web site: www.ainc-inac.gc.ca
Readers are encouraged to visit the site for updates and revisions to the series.

¹ Applies also to other Aboriginal-owned lands — First Nations, Inuit or Metis.

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Acknowledgements

In the 1980s, Indian and Northern Affairs Canada published a series of six land use guidelines, in a handbook format, intended to help operators of small to medium-scale projects carry out activities in northern Canada in an environmentally sensitive manner. These handbooks, commonly called "The Blue Books," have been widely distributed and quoted; they have been reprinted several times and are still requested. Their success is a tribute to the efforts of the original authors and contributors and to the departmental steering committee that guided their preparation.

This new series of northern land use guidelines is, in part, an update of the earlier series. This work was directed by a steering committee that included the following Northern Affairs Program staff: Robert Gowan (Headquarters), Stephen Traynor (Northwest Territories Region, then Nunavut Region), Buddy Williams (Northwest Territories Region), Mark Zrum, then Marg White (Yukon Region) and Carl McLean (Nunavut Region).

Much of the information presented in this series was obtained through discussions with

land use administrators and resource management officers in the Northwest Territories, Nunavut and Yukon. These people are thanked for their time and assistance. To the many individuals who provided photographs for inclusion in this series, thank you. In addition, thanks are extended to the many operators and consultants who took the time to discuss their varied experiences as they relate to land use in northern Canada.

The initial text for the current series was drafted by Komex International Ltd., Calgary, Alberta (with the assistance of David Loeks of TransNorthern Consulting, Whitehorse, for the volume *Applying Sustainable Development*). The efforts of Komex staff and consultants are acknowledged. The series was edited by Robert Drysdale, Ottawa, whose attention to detail is most appreciated. Icons representing the new volumes were created by Venture Communications, Ottawa, and the cover and publication layout were designed by Blackbird Publications, Communication and Design, also of Ottawa.

CHAPTER 1

Introduction

Natural resources in northern Canada have attracted world attention for over 150 years. Starting with furs and gold, resource development has grown to include oil and gas, timber, diamonds, base metals, wildlife, parks, heritage rivers and numerous recreation areas.

Northern Canada has unique and often fragile environmental features that warrant diligent management and protection. Any activities that disturb these features can have long-lasting effects. Sound environmental practices are needed, therefore, to preserve the northern landscape.

Damaging the land has led to other concerns; for example, the quality of wildlife habitat, water sources and visual aesthetics. These types of environmental impacts may limit future development possibilities, such as recreation and tourism.

Environmental impacts also affect the social fabric of northern communities. When traditional hunting, trapping and fishing areas are adversely affected, food sources and family incomes are directly affected.

A community's response to previous poor land practices can lead to social conflict. Community elders may value preservation over employment for younger residents. For a developer, this conflict leads to project delays.

Project delays and underlying community conflicts can be avoided. Most northerners understand the need for economic development and the value of dialogue. Generally, communities will respond favourably to a well thought out development plan.

Community input will allow operators to consider and address local concerns, such as culturally significant sites that should be preserved.

Several resources may be located in an area proposed for land use, with different land users valuing the land for different reasons:

- industrial uses, including forestry, oil and gas, and mining;
- areas of importance to First Nations, e.g., traplines, traditional gathering areas, sacred sites;
- recreation, fishing and hunting areas;
- sites and landscapes considered to be unique; and
- environmentally significant areas and critical wildlife habitat.



These resource values must be considered by the operator during the planning stage of development as integrated use of an area requires effective planning and communication among all parties concerned (government, resource developers, communities and other resource users).

Satisfactory closure at the end of a project is the developer's responsibility. Closure planning should start with development planning.

1.1 Northern Land Use Guidelines Series

The Department of Indian Affairs and Northern Development (DIAND) regulates a wide variety of northern land uses.² DIAND has developed this Northern Land Use Guidelines series to help land use operators and land use regulators to become better environmental managers.

This series reflects several changes from previously published guidelines:

- new volumes;
- user-friendly format;
- project-specific activities;
- new scientific knowledge;
- industry experience gained over the last decade;
- changes in environmental regulations and new industry codes of practice;
- changes in land ownership and land management across northern Canada;
- new expectations (from communities, government and First Nations); and
- Internet access to the series.

Operators should note that changes in northern Canada are rapid and ongoing. As such, this series provides a starting point, prompting land use operators to ask questions, consult with communities and regulators, and hire experts.

The series prompts each operator to assess the environmental impacts of their land use activities. It also suggests that operators consider measures to prevent or to reduce these impacts.



² DIAND's mandate includes the management of land and resources on Crown land in the Northwest Territories, Nunavut and Yukon, as well as various roles respecting First Nations. (See *Administrative Framework* volume for additional information.)

CHAPTER 2

Series Overview



Administrative Framework summarizes the legislation that governs land use in northern Canada. DIAND's changing role is described, as well as the changing ownership and regulation of land and water. The current status of First Nation land claims and the transfer of powers from the federal government are highlighted.



Administrative Process describes the land use permitting process (types of permits, content of the application form, application fee, review process). Changes in this process resulting from the *Canadian Environmental Assessment Act* and the *Mackenzie Valley Resource Management Act* are presented. Authorizations required for land use activities, DIAND contacts, and extracts from Territorial Land Use Regulations and Mackenzie Valley Land Use Regulations are appended to this volume.



Applying Sustainable Development discusses the concept of sustainable development and its importance to northern Canada. DIAND's commitment to sustainable development is presented in the form of ten principles. The life cycle approach to sustainable development is described as it applies to the four phases of project development. The volume concludes with a case example illustrating how the principles of sustainable development were applied in the development of the Brewery Creek Mine, located on the North Klondike River near Dawson City, Yukon.



Permafrost introduces the technical aspects of permafrost features, including a classification of permafrost types. Travelling on permafrost, clearing vegetation, excavation, building, controlling surface drainage, restoring disturbed land and waste management are among the topics addressed.



Access: Roads and Trails presents guidelines for planning, constructing, operating and abandoning roads and trails.

The importance of planning for the entire life cycle of roads and trails is discussed. The volume concludes with a checklist of questions to be considered during each phase of a road's life cycle.



Camp and Support Facilities provides an overview of environmental issues associated with the planning, construction, operation and abandonment of temporary camps. Planning for the entire life cycle of the camp is emphasized.



Pits and Quarries discusses granular materials and how they are best used. The life cycle of pit and quarry development is presented in chapters covering planning, design and construction, operations, and abandonment and reclamation.



Mineral Exploration guidelines are presented on a life cycle basis (planning, operation, maintenance of suspended operations, and closure and site reclamation).



Hydrocarbon Exploration presents guidelines on the life cycle approach to seismic operations and exploration well-sites (i.e., planning, construction, operation, and abandonment and reclamation).



Other Land Uses presents guidelines on some specific other land uses, e.g., forestry operations and temporary airstrips, not discussed elsewhere in the series.



Abandonment and Reclamation summarizes the planning and operational aspects associated with project closure. (Refer also to other volumes in the series for additional discussion of this topic.)

CHAPTER 3

Project Life Cycle

Thinking a project through before you start will save money, time and effort over the length of the project.

The following principles should be taken into consideration throughout the development of a land use activity:

- Land uses addressed in this series of land use guidelines are temporary — the land is being borrowed, not sold.
- Communities and other parties are often affected for a much longer time period than that required to conduct the actual land use activity.
- During the land use activity, natural resources affected should be conserved.
- The land should be restored to its original condition, or suitable alternative condition, after the land use activity has been completed.

Any land use activity has the potential to impact the environment — positively or negatively. Usually, the impact is a combination of both. Potential adverse environmental impacts include:

- disturbance of soils, vegetation and permafrost;
- loss or disturbance of terrestrial or aquatic habitat and associated reduced wildlife or aquatic populations;
- contamination of soils, surface waters and ground water;
- disturbance of archaeological and culturally significant areas; and
- adverse visual impacts.

From planning to completion of a land use activity, consideration should be given to the potential environmental impacts of the project.

3.1 Regulatory Environment

Regulatory agencies governing land use in the Northwest Territories, Nunavut and Yukon have undergone significant changes in the past few

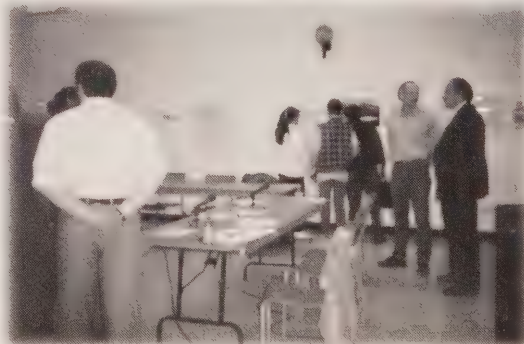
years. It is essential, therefore, that proponents consult with the appropriate regulatory bodies, including DIAND, regarding applicable environmental regulations, permits and guidelines, before initiating a development proposal.

See Administrative Framework and Administrative Process volumes for additional information

3.2 Planning and Design

Project planning and design help proponents get organized. Information should be gathered on the following:

- legislation and regulations applicable to the proposed project;
- potential environmental impacts;
- current industry standards (codes or best management practices);
- who owns the land;
- who manages the land use activity;
- other resources that might be affected;
- current and proposed access;
- other Land Use Permit holders or land users affected (on-site);
- adjacent land users (off-site);
- sites (options) available for the project;
- the preferred site and approach to the project; and
- reclamation planning.



After consulting key stakeholders (including DIAND staff, community leaders, other land users, experts and any other regulators), proponents should document all plans for development, construction, operation and closure. Regulators will grant a Land Use Permit on the basis of the information provided in the permit application form.

3.3 Construction

While waiting for permit approval, operators can begin training staff and preparing for the initial construction phase. This is also a good time for follow-up discussions with the local community regarding construction, timing, equipment and supplies needed, and staff. Following permit approval, operators can begin preparing the site for construction. As construction activities will always disturb the natural environment, operators should use appropriate construction methods to minimize environmental impacts. They should also continually monitor impacts and ensure that all construction is proceeding according to plan.



See Access: Roads and Trails
volume for additional information

3.4 Operation

During the operational stage, operators must:

- continue to monitor impacts of the project;
- identify and correct operational procedures as required; and
- adhere to operating conditions as outlined in the Land Use Permit.



See Camp and Support Facilities
volume for additional information

3.5 Abandonment and Reclamation

An abandonment and reclamation plan should be included as part of the Land Use Permit application. Over the course of the land use activity, and as the expiry date of the Land Use Permit approaches, operators should review and revise the plan as necessary.



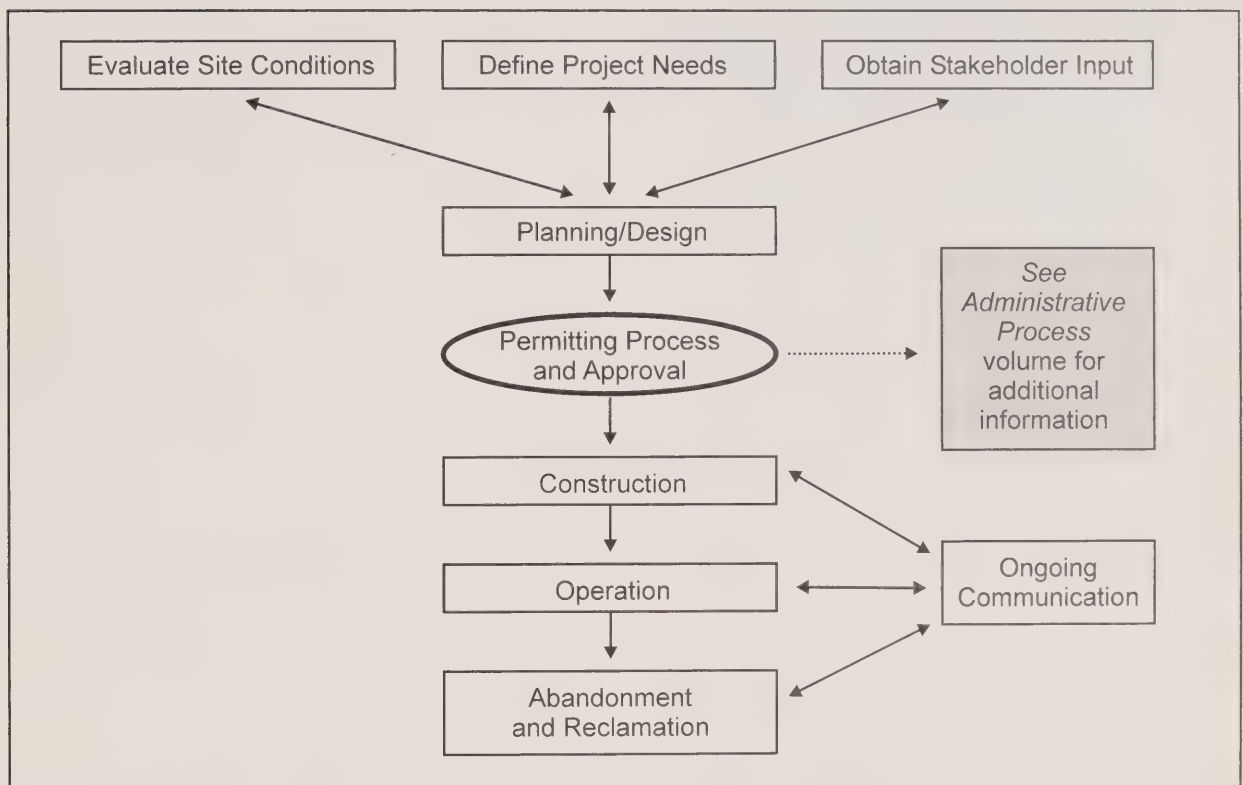
Operators are fully responsible for abandonment and reclamation of the operation and site.

*See Applying Sustainable
Development volume for additional
information*

CHAPTER 4

Project Management

By considering the full life cycle of a project, operators can greatly improve their land use operation and become better environmental managers. The flowchart that follows summarizes the steps and key activities applicable to most land use activities carried out in northern Canada.



Project life cycle.

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